

Examiner: Robert E. Mosser // Art Unit 3714

**NEW CLAIMS**

**PRELIMINARY REMARK:** The original Claims 1 to 70 are all canceled. Former claims 9 and 70 are now regrouped in claim 96: this claim gives precisions on new claim 86 that is a reformulation of former claim 27, a reformulation whose validity has been argued on the basis that Sity does not describe self-correction capabilities of the die. There are now 30 claims altogether, numbered 71 to 100.

Claim 71 (New). A die containing at least one embedded system such that when said dice is at rest, said embedded system is in a state whose knowledge allows determination of which face of said die is

down or the determination that the rest state is improper, said determination of which face of said die is down or that the rest state is improper using piezoelectric facets that each senses all or part of the weight of the die when they are bellow and support all or part of the weight of the die.

Claim 72 (New). A die containing at least one embedded system such that when said dice is at rest with one of its face down, said embedded system is in a state whose knowledge allows determination of which face of said die is down, where part or all of the energy needed by said embedded system is generated by at least one of a motion captor system and a thermal energy captor using the Seebeck-Peltier effect.

Claim 73 (New). A die as in claim 72, said die being such that using one or more embedded transmission systems, it can transmit at least one of: said state whose knowledge allows determination of which face of said die is down, the information of which face is down, the information of which face is up, the information of what is the value that can be read on the top face.

Examiner: Robert E. Mosser // Art Unit 3714

Claim 74 (New). A die as in claim 73 where part or all of the energy needed by said transmission systems is generated by at least one of a motion captor system and a thermal energy captor using the Seebeck-Peltier effect.

Claim 75 (New). A die as in claim 74 where the energy produced by said motion or heat captor allows transmission of the state of said die to only persist a short time after each throw.

Claim 76 (New). A die as in claim 72 further equipped with a special board emitting heat.

Claim 77 (New). A die as in claim 73 further equipped with a special board emitting heat.

Claim 78 (New). A die containing at least one embedded system such that when said dice is at rest with one of its face down, said embedded system is in a state whose knowledge allows determination of which face of said die is down, said die being such that using one or more embedded transmission systems, can transmit at least one of: said state whose knowledge allows determination of which face of said die is down, the information of which face is down, the information of which face is up, the information of what is the value that can be read on the top face, where detection of the state of said die is made using the photoelectric effect and a special board emitting electromagnetic radiations.

Claim 79 (New). A die as in claim 78, said die being such that using one or more embedded transmission systems, it can transmit at least one of: said state whose knowledge allows determination of one at least of which face of said die is down, the information of which face is down, the information of which face is up, the information of what is the value that can be read on the top face.

Examiner: Robert E. Mosser // Art Unit 3714

Claim 80 (New). A die as in claim 71, said die furthermore containing at least one transmission system such that when said dice is at rest, said embedded system can transmit at least information allowing determination of what is the value that can be read on the top face, or the information that the rest state of the die is improper.

Claim 81 (New). A die containing at least one embedded system such that when said dice is at rest with one of its face down, said embedded system is in a state whose knowledge allows determination of which face of said die is down or the information that the rest state is improper, said die being such that using one or more embedded transmission systems, it can transmit at least one of: said state whose knowledge allows determination of which face of said die is down, the information of which face is down, the information of which face is up, the information of what is the value that can be read on the top face, or whether the rest state is improper, where part or all of the determination of which face is up or the transmission of information allowing to determine which face is up can be realized as MEMS or NEMS size modifications of an usual die.

Claim 82 (New). A die as in claim 71 where part or all of the teaching can be realized as MEMS or NEMS size modifications of an usual die.

Claim 83 (New). A die as in claim 80 where part or all of the teaching can be realized as MEMS or NEMS size modifications of an usual die.

Claim 84 (New). A die containing at least one embedded system such that when said dice is at rest with one of its face down, where detection of the face that is down is made using solid or liquid moving parts that allows electricity to flow in a circuit that depends on which face of said

Examiner: Robert E. Mosser // Art Unit 3714

die is down, whereby the down face does not depend on said face resting on some surface.

Claim 85. (New). A die containing at least one embedded system such that when said dice is at rest with one of its face down, said embedded system is in a state whose knowledge allows determination of which face is down, the information of which face of said dice is up, the information of what is the value that can be read on the top face, or whether the rest state is improper, said die being such that using one or more embedded transmission systems, it can transmit at least one of: said state whose knowledge allows determination of which face is down, the information of which face of said dice is up, the information of , where detection of the face that is down is made using solid or liquid moving parts that allows electricity to flow in a circuit that depends on which face of said die is down.

Claim 86 (New). A die containing at least one embedded system such that when said dice is at rest with one of its face down, said embedded system is in a state whose knowledge allows determination of which face of said dice is up, the information of what is the value that can be read on the top face, or whether the rest state is improper, said die being such that using one or more embedded transmission systems, it can transmit at least one of: said state whose knowledge allows determination of which face of said die is down, the information of which face is down, the information of which face is up, the information of what is the value that can be read on the top face, where said die stores information and contains embedded equipment that allows judging and correcting the fairness of said die.

Claim 87 (New). A die containing at least one embedded system such that when said dice is at rest with one of its face down, said embedded system is in a state whose knowledge allows determination of which face of said dice is up, the information of what is the value that can be

Examiner: Robert E. Mosser // Art Unit 3714

read on the top face, or whether the rest state is improper, said die being such that using one or more embedded transmission systems, it can transmit at least one of: said state whose knowledge allows the determination of which face of said die is down, the information of which face is down, the information of which face is up, the information of what is the value that can be read on the top face, where the embedded systems are securely protected and also allow one to detect fraudulent attempts to break in the die.

Claim 88 (New). A die as in claim 87 where said die emits alerts when fairness is not respected and such that the lack of fairness is acknowledged by the dice upon authorized enquiry.

Claim 89 (New). A die as in claim 72 where the beginning of the handling of the die prompts further electrical energy sources.

Claim 90 (New). A die as in claim 85 where the state of said die after the throw is recognized at the conclusion of the throw, said knowledge of the state of the die being complete and in particular comprising whether the die rests in an acceptable position or not.

Claim 91 (New). A die as in claim 89 where the state of said die after the throw is recognized at the conclusion of the throw, the knowledge of the state of the die being complete, and in particular comprising whether the die rests in an acceptable position or not.

Claim 92 (New). A die as in claim 73, where the beginning of the handling of the die prompts further electrical energy sources and the state of said die after the throw is recognized at the conclusion of the throw and input in the unfolding of the game without any player having any further input to make such as indicating that the throw has been performed and/or that the

Examiner: Robert E. Mosser // Art Unit 3714

information sent by said die about its state is complete, and in particular if the die rests in an acceptable position or not, so that the game can proceed.

Claim 93 (New). A die containing at least one embedded system such that when said dice is at rest with one of its face down, said embedded system is in a state whose knowledge allows determination of which face of said die is down, said die being such that using one or more embedded transmission systems, can transmit at least one of: said state whose knowledge allows determination of which face of said die is down, the information of which face is down, the information of which face is up, the information of what is the value that can be read on the top face, where the transmission protocol is any of the Bluetooth protocol or one of the versions of the 802.11 protocols of the Institute of Electronic and Electrical Engineering, such as 802.11b.

Claim 94 (New). A die as in claim 93 where the set of energy sources used by the die comprises a part that gets activated when said die are handled or thrown, this part of the energy serving in particular to open other energy sources that are needed for using the transmission protocol that has been implemented in he die.

Claim 95 (New). A die as in claim 93 where the transmission protocol characteristics are used to cover the identification and further basic security needs that condition good usage of the die and, in particular prevents interferences with other systems and allow several games to take place simultaneously in a room.

Claim 96 (New). A die as in claim 86 where the corrections to fairness are made in at least one of a deterministic way or in a random way.

Examiner: Robert E. Mosser // Art Unit 3714

Claim 97 (New). An object that can recognize the up and down directions without needing to rest on (New). any surface.

Claim 98 (New). A method whereby an object can recognize the up and down directions without needing to rest on any surface.

Claim 99 (New). A method for a die to recognize which face is up, to keep the history of such die values, to check its own fairness, and correct it in a deterministic way.

Claim 100 (New). A method for a die to recognize which face is up, to keep the history of such die values, to check its own fairness, and correct it in a random way.